

REMARKS

Reconsideration of this application is respectfully requested.

The Office Action objected to the specification as filed as containing unclear terms. In response, applicants have reviewed and amended the specification.

Claims 1-3 have been objected to under 35 U.S.C. § 112, first paragraph, for including improper language. Claims 1 and 2 have been amended, as suggested by the Examiner, and Claim 3 has been canceled.

Claims 2, 6, 10, 11, and 13 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. In response, applicants have amended Claims 2, 6, and 10 to overcome such rejections, and canceled Claims 11, and 13.

Claims 1-4, 6, and 7 were further rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,361,091 to Hoarty et al. in view of U.S. Patent No. 6,167,084 to Wang et al. in further view of U.S. Patent No. 5,982,813 to Dutta et al. Reconsideration of these rejections is respectfully requested. As a preliminary matter, it is noted that the Wang et al. patent has a filing date of August 27, 1998, which is after the Japanese filing date of the present application, July 10, 1998, from which a priority is duly claimed. Accordingly, applicants respectfully submit that the Wang et al. patent is not a valid prior art reference against the present application and therefore should be withdrawn.

In the present invention, distribution in a local area network of the stream data received from an external network is adjusted according to the bandwidth of the local area network, which is narrower than that of the external network. Specifically, the stream data received in a broadband (with a larger amount of data being transmitted per time, e.g., broadcast) is controllably changed to stream data corresponding to a narrower band (with a smaller amount of data being transmitted per time) based on the distribution condition of the local area network.

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Independent claim 1 (as amended) and independent claim 17 (new) explicitly recite that such data processing is carried out "according to a limitation set by an amount of transmission data per unit of time based on a distribution condition of a local area network." This aspect of the invention, which permits changing the band distribution continuously and arbitrarily based on the distribution condition of the local area network, is not taught or suggested by any of the cited references. Thus, claims 1 and 17 are allowable

Independent claim 6 (amended) and independent claims 25 and 43 (new) are also directed to adjusting broadband stream data to stream data corresponding to a narrower band, as in claims 1 and 17 discussed above, and further include the limitation that a "filter [that] control[s] an amount of transmission data per unit of time" is used for the purpose of the transmission band adjustment. Furthermore, claims 25 and 43 explicitly recite that data processing is performed for each "sub-stream data forming part of the stream data." Again, none of the cited references teaches or suggests these aspects of the invention. Thus, claims 6, 25, and 43 are allowable.

The rest of the claims are all dependent claims, and therefore these claims are believed to be allowable for at least the same reasons why the independent claims from which they depend (Claims 1, 6, 17, 25, and 43) are allowable.

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An early and favorable action allowing the present application is respectfully requested.

Respectfully submitted,

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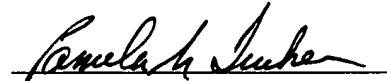
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Date:

February 26, 2003



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VERSION WITH MARKINGS TO SHOW CHANGES MADE FEBRUARY 26, 2003

In the Specification:

The paragraph beginning at page 1, line 10 has been amended to read as follows:

In [Recent] recent years, [by] due to the spread of the digital broadcasting network and the communication network (including a computer network) which includes digital satellite broadcasting and CATV, etc., [a system to be called] a so-called information delivery system[.] is proposed to provide various information, that is, multimedia information [for] to many and unspecified homes ([Hereafter] hereafter, called [as] a user) [is being achieved]. Here, multimedia information means digital information on the video, the static image, and the voice, etc. In this digital information, information, which especially includes [an] a video, a voice, a static image, and character information, etc., and requires a real time characteristic, is called stream data. This stream data is handled in distinction from digital information composed only of a static image and character information.

The paragraph beginning at page 1, line 27, has been amended to read as follows:

To achieve such an information delivery system, a local area [servers] server which is called [as] a set-top box (STB) and/or an IRD (Integrated Receiver Decoder) is proposed. The personal computer connected with a television set and a communication network is handled as a terminal device for the local area server.

The paragraph beginning at page 2, line 6, has been amended to read as follows:

A preferable construction is as follows as the information delivery system. That is, it is desirable that the information delivery system is constructed as being arranged in each home, being connected with a plurality of terminal devices such as television sets and personal computers, and receives plural kinds of stream data transmitted through the digital broadcasting network and the communication network and [send] sends it to each terminal device. Plural

kinds of stream data includes video stream (VS) from video on demand (VOD) system which uses the communication network etc. besides said digital broadcasting stream (BS).

The paragraph beginning at page 2, line 19, has been amended to read as follows:

In such a system, the user arbitrarily selects information (program and title, etc.) which he/she wants to attend from among broadcasting stream (BS) and video stream (VS) to be able to reproduce the information on the display of the terminal device.

The paragraph beginning at page 3, line 11, has been amended to read as follows:

There is a possibility that a similar state is generated in case [of] the user [attends first] first attends the stream of VOD. To prevent such a state, the stream not selected by the user is monitored as a background, and when the attention priority of the user changes, a method of switching the stream of the selected attention and the background stream is proposed. Here, the data transmission band (sending band to the terminal device) is usually limited in the system like the local area network which includes said local area server. This data transmission band ([Or] or, only called [as] "band") means an amount of the transmission data per unit time (bps: bits per second).

The paragraph beginning at page 5, line 11, has been amended to read as follows:

With such a system configuration, the user comes to be able to attend stream data on the program with high attention priority selectively from among broadcasting stream data and stream data from the VOD system. In this case, the transmission band of selected stream data is adjusted within the range of the limitation of the transmission band allocated [in] to the terminal device. Therefore, [the user does not take part] even when there is no room in the transmission band for the terminal device, the transmission band of selected stream data is adjusted automatically, and selected stream data is transmitted to the terminal device. The user does not operate the band setting of stream data when there is room in the transmission band for the

terminal device, and the stream data with the high picture quality can be transmitted to the terminal device automatically for example.

The paragraph beginning at page 10, line 10, has been amended to read as follows:

The stream distribution server 2 has the plurality of reception means to connect with each of the broadcasting network and the communication network, and can receive plural kinds of the stream data in the lump at the same time. The stream distribution server 2 mixes received stream data, selects partial stream data ([It is specific informational of] according to the packet unit described later) based on a fixed distribution condition ([Request] request from terminal device 3). To achieve such a function, the stream distribution server 2 has each element of a stream output control section 10 and a stream manager 11 as shown in FIG. 2.

The paragraph beginning at page 13, line 22, has been amended as follows:

The stream multiplexer-demultiplexer 20 receives the video stream data VS from the wide area network communication section 23 and the broadcasting stream data BS from the broadcasting receiver 24 in the lump and joins (mixes) them. In addition, the stream multiplexer-demultiplexer 20 extracts a packet data, which [is] corresponds to the attention request from each terminal device 3, from the stream data to redistribute it to each terminal device 3 again. The local area network manager 21 monitors the use state of the local area network, and allocates the band to each terminal device 3 within the predetermined range of the limitation value. Therefore, the band allocated in each terminal device 3 will change according to the use state of the local area network.

The paragraph beginning at page 20, line 14, has been amended to read as follows:

Here, a method of acquiring program information (guide information of contents which [want to attend] are to be attended in the terminal device 3 will be explained). The stream distribution server 2 regularly extracts the program information multiplexed in the received

broadcasting stream BS, and stores it into the file device 4. Here, an EPG (Electronic Program Guide) information is assumed as a concrete example of the program information. And, the stream distribution server 2 transmits the stored EPG information to the terminal device 3 according to the request from the terminal device 3. In this case, the stream distribution server 2 may create the menu which combines program schedules with GUI for the control by processing EPG information, and present on the display of the terminal device 3.

The paragraph beginning at page 22, line 13, has been amended to read as follows:

On the other hand, the stream filter 26 adjusts the transmission band of the stream data within the range of the allocated band to the terminal device 3 as mentioned above when there is no room in the band for which the local area network can be used ([That] that is, the amount of the stream of the transmission data is reduced). That is, by the filtering processing of the stream filter 26, the stream data within the range of the limitation band is passed, and is transmitted to the terminal device 3 (step S23). Therefore, when the attention request from the terminal device 3 is the stream data of, for example, a high band, like the HD level, the amount of data distributed by the filtering processing is reduced. Specifically, [the reduction in] the distributing number of programs will be reduced or the information qualities of one program will be reduced. Here, the information quality means, for example, the number of frames of the display per second, the space resolutions, the distribution program numbers, and contents etc. of voice information (presence of the multi national language voice etc.).

The paragraph beginning at page 23, line 7, has been amended to read as follows:

As mentioned above, the stream distribution server 2 of this embodiment dynamically changes the transmission band which can be used by the filtering processing within the range of the limitation band in the local area network. Specifically, first, the stream distribution server 2 executes the distribution of the stream data according to the attention request for example for the

terminal device 3. At this time, the stream distribution server 2 reduces the allocated band to the terminal device 3 by the filtering processing of the stream filter 26 as described above if the room of the band in the local area network is reduced. Therefore, the attention can be continued in the terminal device 3 even though the quality of the stream data transmitted to the terminal device 3 is deteriorated. Naturally, the quality of the stream data returns to the original ones if the room of the band in the local area network [can be provided] is restored.

The paragraph beginning at page 24, line 8, has been amended to read as follows:

The terminal device 3 notifies the stream distribution server 2 the recording request to record the program stream data on attending (YES in step S25). The stream distribution server 23 generates the stream branch from the stream multiplexer-demultiplexer 20, and executes the file output processing (step S26). That is, the local area network manager 21, which receives the recording request, controls the multiplexer-demultiplexer 20, and the file I/O section 25, and stores the stream data to be recorded in the file device 4 as shown in FIG. 4. When the stream distribution server 2 receives the recording reservation request from the terminal device 3, the recording reservation setting is performed to the content information manager 27. A recording starting matter is notified from the content manager 27 to the local area network manager 21 when [becoming] it comes to the broadcasting starting time of the program so that the recording reservation is performed. And, the local area network manager 21 performs the same processing as a usual recording.

The paragraph beginning at page 27, line 24, has been amended to read as follows:

In addition, as another concrete example, when the attention of the program including the image at the HD level has been reserved from a certain terminal device 3, consider the case that the room of the band of the local area network is [a little is assumed] small at starting broadcasting of the program. The stream distribution server 2 converts the stream data into the

image at the SD level by the filtering processing of the stream filter 26 and distributes to the terminal device 3 when judging that the transmission of the image at HD level is difficult. At this time, the stream distribution server 2 temporarily stores the image at the HD level in the file device 4, and notifies the terminal device 3 a predetermined message. The message includes, for example, "the quality of the program under the distribution is adjusted because of the band limitation of the local area network", and "an original program at the HD level is being recorded simultaneously" etc. Here, when the recording request is regularly received from the terminal device 3, the stream distribution server 2 manages storing the image at the HD level temporarily stored in the file device 4. On the other hand, the image temporarily stored in the file device 4 may be automatically erased when there is no regular recording request even if regulated time passes.

In the Claims:

Claims 1, 2, 5, 6, and 10 have been amended as follows:

1. (Twice Amended) A [stream distribution] system for distributing stream data after executing a predetermined processing of the stream data from an external network, comprising [a stream distribution server, a plurality of terminal devices each having an information reproduction function, and a local area network for connecting both of said stream distribution server and said terminal device, wherein

said stream distribution server comprises]:

[reception means for receiving a] a receptor which receives the stream data [of a digital form] transmitted through a broadcasting network [or a communication network];

[selection means for selecting] a selector which selects a predetermined unit of information from the stream data received by [said reception means based on a distribution

condition set by each of said plurality of terminal devices which has an information reproduction function] the receptor according to a request from a user;

a file I/O [means for controlling] controller which controls a file device [under management of said stream distribution server] and [for outputting] outputs the predetermined unit of information selected by [said selection means] the selector to [said] the file device; and

[transmission means for transmitting] a transmitter which either transmits the predetermined unit of information selected by [said selection means] the selector to [said] a terminal device [after] having information reproduction function or to the file device while executing a predetermined processing, according to a limitation [of a preset data transmission band] set by an amount of transmission data per unit of time based on a distribution condition of a local area network.

2. (Amended) The [stream distribution] system according to claim 1, wherein

[said] the stream data is constructed with information [on] in a packet unit, and a packet identifier for identifying data in a packet is added to each packet, and

[said selection means includes means for receiving a plurality of said stream data transmitted through said broadcasting network and a plurality of said stream data transmitted through said communication network in the lump, and for mixing or re-multiplexing each of said stream data] the selector extracts the predetermined unit of information which is requested from the user by referring to the packet identifier.

5. (Amended) The [stream distribution] system according to claim 1 wherein

[said selection means] the selector outputs the stream data received from the receptor to [said] the file I/O [means] controller when [generating] either a recording request is received from [said] the user [terminal device] or [suiting] a predetermined recording condition is met, and

[said] the file [I/O means] device stores the stream data received from [said selection means] the selector.

6. (Twice Amended) A stream distribution system comprising:

a stream distribution server, a plurality of terminal devices each having an information reproduction function, and a local area network connecting both of [said] the stream distribution server and [said] the plurality of terminal devices, wherein

[said] the stream distribution server targets the stream data [constructed with] comprising information [on] in a packet unit, wherein an identifier to identify [a] the type of data in the packet is added to each packet, [and comprises] the stream distribution system further comprising:

a plurality of reception means for receiving [said] the stream data transmitted through a broadcasting network or a communication network;

selection means capable of connecting [said] the plurality of reception means, for mixing or re-multiplexing a plurality of [said] the stream data input from [said] the reception means, and for selecting and extracting a predetermined unit of information which coincides with [the attention] a request for sending and recording [request accepted] received from [said] the terminal device by referring to the [identification information] identifier to identify the predetermined unit of information which [constructs said] forms the stream data[, and for branching and distributing the selected and extracted information to said transmission means or said file I/O means corresponding to said terminal device];

filter means for controlling an amount of transmission data per unit of time to be output to the terminal device;

transmission means for transmitting the selected and extracted information to [said] the terminal device by using [said] the filter means to adjust the transmission band of the stream data

received from [said] the selection means based on a limitation [of the] on a predetermined data transmission band; and

file I/O means for controlling a file device under management of [said] the stream distribution server and for outputting information selected by [said] the selection means to [said] the file device, wherein

the selection means branches and distributes the selected and extracted information to the transmission means or to the file I/O means corresponding to the terminal device.

10. (Amended) The stream distribution system according to claim 6, wherein [said] setting means controls said setting means, [said] the file I/O means and [said] the transmission means are controlled according to a storage data reading request from [said] the terminal device, and [transmits said] the stream data stored in [said] the file device are transmitted to [said] the terminal device through [said] the file I/O means, [said] the selection means and [said] the transmission means.

Claims 3, 4, 7-9, and 11-16 have been canceled.

Claims 17-50 have been added.